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... 2000, Santa Barbara, USA. **DYMAC 1999** : First International **Conference** on the Integration of Dynamics, Monitoring and Control, Manchester UK, September 1-3, 1999; ...

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Publications

... Marjanovic, O., Lennox, B., Goulding, PR and Sandoz, DJ (1999), 'Optimal control of robot manipulators', Proceedings of **DYMAC Conference**, Manchester, 235 ...

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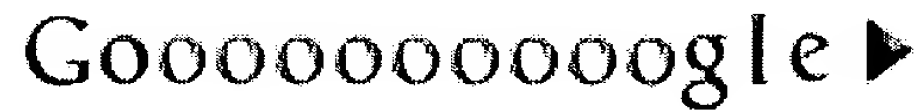
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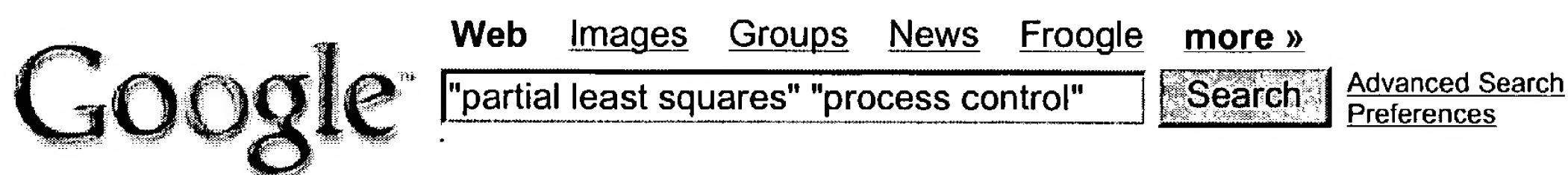
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... ability to inferentially estimate, using **Partial least Squares**, the value ... information generated by multivariate statistical **process control** (MSPC) techniques ...

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STATISTICA Multivariate Statistical Process Control (MSPC) ...

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... Analysis (PCA), **Partial Least Squares** (PLS) and Kernel Density Estimation (KDE), and combining them to form an integrated robust **process control** and monitoring ...

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... for Non-linear **Partial Least Squares**. Conclusions. Data Rich Information Poor.

Enhanced Profitability. and. Improved Customer. Satisfaction. Modern **Process Control**. ...

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Joe S. Qin

... We make use of principal component analysis, **partial least squares**, dynamic models ... and control represent an emerging area of **process control** where tremendous ...

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A. Simoglou, EB Martin and AJ Morris Computers Chem Engng, 1999, 23, pp ...
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Hansen et al., July 1999

... **partial least squares** was used. Key Words: lactose hydrolysis, multivariate curve resolution, **process control**, reference-independent estimation. 1999 J. Dairy ...
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... 6:00 pm on Tuesday 12 October, 1999. ... development of multivariate statistical **process control** (MSPC) has ... related methods such as **partial least squares** regression ...
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... GA and Lennox, B., (2000), 'Multivariate statistical ... B., (2003), 'Recursive **partial least squares** algorithms for ... processes', Journal of **Process Control**, 14 (1 ...
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... User. Mr. **David Sandoz**. General Manager. dsandoz@newport.com. Newport Instruments Canada Ltd. 2650 Meadowvale Blvd., Unit #3. Mississauga. ONTARIO. Canada. L5N 6M5. ...

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... Race 1. Race 2. Race 3. Race 4. Race 5. Race 6. Race 7. Race 8. Total. **David Sandoz**.

0. 0. 0. 0. 0. 0. 0. 0. 0. Rick Dodson. ... 0. 0. 0. 0. 0. 0. 0. 0. **David Sandoz**. 1100.

0. 0. 0. 0. 0. 0. 0. 0. 1100. ...

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David James Sandoz

David James Sandoz. Professor of Industrial Control Engineering. Chairman of Predictive Control Ltd. Qualifications and Awards. B.Eng ...

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Chairman, President and CEO, Allergan-David El Pyott

... **David El Pyott** joined Allergan on January 1, 1998, as President and Chief ... Mr. Pyott joined **Sandoz** in 1980 working in several positions in strategic planning ...

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Abstract

Kruger U., Desforges M.J., Lennox B., Sandoz D.J.

"On the Application of Non-Linear Partial Least Squares to Industrial Process Control" (1999)

DYMAC Conference, Manchester 1-3. September 1999

<http://www.ee.qub.ac.uk/isac/Private/papers/KrugerU/Conference/dymac1999a.pdf>

Partial Least Squares (PLS) has gained importance as regression tool, addressing cases where standard least squares techniques fail in providing a unique solution or where the parameter estimation is strongly biased. Additionally, PLS has also been suggested as a nonlinear modelling tool, an application which is discussed in this paper. This paper reviews existing nonlinear PLS approaches and introduces an alternative method, denoted as NLDPLS. Two different case studies are proposed to demonstrate the performance of NLDPLS. It is further described how the NLDPLS model can be incorporated in the industrial process control framework based on Model Based Predictive Control.

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1. **Antory, D., Kruger, U., McCullough, G. and Irwin G. W.**
"Detecting Air Leaks in An Engine Intake Manifold Using Nonlinear PCA" (2004)
Proc. IFAC Symposium on Advances in Automotive Control, Fault Management Section, Salerno, Italy, April 19-23, 2004, pp. 404-409.
2. **Chen Q, Kruger U, Leung A Y T**
"Regularised Kernel Density Estimation for Clustered Process Data" (2004)
Control Engineering Practice, Vol. 12, No. 3, pp. 267-274, 2004
3. **Chen, Q., Kruger, U., Meronk, M., Leung, A.Y.T.**
"Synthesis of T2 and Q-Statistics for Process Monitoring" (2004)
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4. **Kruger, U., Zhou, Y., Irwin, G.W.**
"Improved Pricpal Component Monitoring of Large-Scale Processes" (2004)
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"Dynamic multivariate statistical process control using subspace identification" (2004)
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"Fault diagnosis in internal combustion engines using Principal Component Analysis" (2003)
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7. **Antory, D., Kruger, U., Irwin, G.W, McCullough, G.**
"Application of Non-linear Principal Component Analysis for Fault Detection and Diagnosis in Combustion Engines" (2003)
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Proceedings of 6th Annual Sir Bernard Crossland Symposium & Research Workshop, NUI Galway, Ireland, pp. 119, ISBN 1-898012-33-4
9. **Antory, D., Kruger, U., Irwin, G.W., McCullough, G. and Hung, P.**
"Misfire Detection by Monitoring Exhaust Gas Temperature Using A Neural Networks Model" (2003)
Proceedings of the 8th Indonesian Students' Scientific Meeting (ISSM03), TU Delft, The Netherlands, ISSN 0855-8692, pp. 143-148
10. **Kruger U., Qin, S.J.**
"Mathematical Development of the Canonical Correlation Partial Least Squares Algorithm" (2003)
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11. **Kruger, U. Qin, S.J**
"Fault Detection and Diagnosis using Canonical Correlation Partial Least Squares (invited paper)" (2003)
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"Applications of Canonical Correlation Partial Least Squares to Statistical Process Control" (2003)
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13. **Sharma S K, Kruger U, Irwin G W**
"Genetic Learning Methods for Enhanced Non-Linear Partial Least Squares Modelling" (2003)
Preprints of the IFAC International Conference on Intelligent Control Systems and Signal Processing, Faro, Portugal, pp. 37-42, April 8-12, 2003.
14. **Xun Wang, Uwe Kruger and Barry Lennox**
"Recursive partial least squares algorithms for monitoring complex industrial processes" (2003)
Control Engineering Practice, Vol. 11, No. 6, pp. 613 - 632
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Proceedings 15th IFAC World Congress on Automatic Control, Barcelona, Spain, 21 - 26. July 2002

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"System Identification Methods for Industrial Processes" (2002)

21st IASTED International Conference on Modelling, Identification and Control, Innsbruck, Austria, 18 - 21 February 2002, pp. 415-525.

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17. **Baydar N., Chen Q., Ball A.D., Kruger U.,**

"Detection of Incipient Tooth Defect in Helical Gears Using Multivariate Statistics" (2001) [\[Abstract\]](#)

Mechanical Systems and Signal Processing, Vol. 15, No. 2, pp. 303-321, 2001.

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18. **Chen Q., Kruger U., Meronk M. and Leung A.Y.T.**

"Kernel Density Estimation on T^2 and Q for Condition Monitoring and Fault Detection" (2001)

Proceedings of the Conference on Condition Monitoring, Oxford, U.K., 25. - 27. June, 2001

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"Application of PCA for Detecting and Diagnosing Abnormal Process Behaviour" (2001)

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20. **Kruger U., Chen Q., McFarlane R.C., Sandoz D.J.,**

"Extended PLS Approach for Enhanced Condition Monitoring of Industrial Processes" (2001) [\[Abstract\]](#)

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21. **Kruger U., Wang X. and Qin S.J.**

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23. **Wang X., Kruger U., Lennox B., Goulding P.R.**

"A Novel Multi-Block Method Using Latent Variable Partial Least Squares" (2001) [\[Abstract\]](#)

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24. **Wang X., Kruger U., Leung A.Y.T., Lennox B.**

"A Recursive Multiblock PLS Algorithm for Monitoring Industrial Processes" (2001)

Proceedings of the IFAC Conference on New Technology for Computer Control, pp.265-270, Hong Kong, 19-22 November, 2001

25. **Chen Q., Sandoz D.J., Wynne R., Kruger U.**

"Improved Kernel Density Estimation for Clustered Data Using Regularisation and Deconvolution" (2000) [\[Abstract\]](#)

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- Baffi, G., Martin, E.B. and Morris, A.J., (1999), **Non-linear Projection to Latent Structures Revisited - the Neural Network PLS Algorithm**, *Computers and Chemical Engineering*, 23, pp.1293-1307
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